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ELECTRIC SUPPLY AND RESIDENTIAL RATES OF NORTHWESTERN ENERGY

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Introduction

The following graphs show the electric supply, residential electric rates and unit prices of NorthWestern Energy (NorthWestern), *adjusted for inflation*. This information is available in published tariffs and regular dockets at the Montana Public Service Commission (PSC).[1]

Since 1998, customers purchasing electric supply from NorthWestern or its predecessor have paid an electric rate in dollars-per-kilowatt-hour ($/kWh) consisting of at least three sub-rates: (1) A distribution delivery service (**distribution**) rate; (2) a transmission delivery service (**transmission**) rate; and (3) an electric supply rate. Whereas the transmission and distribution rates pay for the wires and poles that transmit electrical energy, the supply rate pays for the electrical energy (**supply**) itself.

NorthWestern has long-term contracts to buy supply from PPL Montana, LLC, (**PPL**) which owns coal-fired plants and hydroelectric dams; Citigroup Energy, Inc. (**Citigroup**), which provides a standard 25-megawatt quantity; Invenergy, LLC, which owns a wind farm (**Judith Gap**) in Wheatland County; and "qualifying facilities"[2] that contracted with NorthWestern (**QF-I**) or its predecessor the Montana Power Company (**QF-II**).[3]

Although NorthWestern enters long-term contracts to buy most of its supply, it also makes short-term purchases up to eighteen months in advance (**short term fixed**) or only an hour in advance on the open market (**spot market**).

Since January 2009, NorthWestern has generated some of its own supply at a coal-fired power plant it owns in Colstrip, Montana (**Colstrip Unit 4**).[4] It has also operated the Dave Gates Generating Station (**Dave Gates**) since January 2011.[5] The primary function of Dave Gates is not to provide supply, but rather "the reserve capacity necessary to maintain transmission system reliability and balance on a moment to moment basis as customer demand and available resources fluctuate."[6] Its 40-megawatt Spion Kop wind farm (**Spion Kop**) began producing power in December 2012.[7]

As a wind farm, Judith Gap is one of the resources that fluctuates, and may require as much as a quarter of Dave Gates' current capacity to level some of its fluctuation. Because this cost is attributable to Judith Gap, *the graphs show about a quarter of the current cost of Dave Gates allocated to Judith Gap.*

In the first six months of 2012, NorthWestern also purchased (**other**) supply from the U.S. Bureau of Reclamation, which owns Tiber Dam, Turnbull Hydro, LLC, which owns a 13MW "community renewable energy project," and Basin Creek Equity Partners, LLC, which operates a natural gas-fired power plant near Butte.

At the time of deregulation, the Montana Legislature mandated a Universal System Benefits (**USB**) rate, which annually collects 2.4% of NorthWestern's 1995 retail sales revenue "to ensure continued funding of and new

[1] *See e.g.* PSC Dockets D2011.5.38 & D2010.7.74.
[2] *See* 16 U.S.C. §§ 824a-3, 2601 *et seq.* (2012).
[3] As shown on graphs, another QF-II rate is added to the supply rate.
[4] *See* PSC Ord. 6925f p. 65 (Nov. 13, 2008).
[5] *See* PSC Ord. 6943a p. 62 (May 19, 2009).
[6] NorthWestern Bill Insert, p. 1 (Jan. 2011).
[7] *See* PSC Ord. 7159l pp. 40-41 (Feb. 14, 2012).

expenditures for energy conservation, renewable resource projects and applications, and low-income energy assistance."[8] NorthWestern uses a portion of USB funds for conservation and efficiency efforts.

Additionally, NorthWestern has managed a larger, more cost-effective portfolio of conservation and efficiency programs since 2004. Funded through the electric supply rate, these programs are referred to as demand-side management (**DSM**).

The PSC has approved four $/kWh rates[9] that enable NorthWestern to earn a reasonable profit on certain investments. USB and DSM efforts to reduce the number of kWh sold would in turn reduce these approved profits if NorthWestern could not collect what it would have collected anyway (**Lost Revenue**) had it not encouraged conservation and efficiency.

Whenever supply is moved across power lines, some is lost in the form of heat and electromagnetic energy (**Line Losses**). To set the transmission, distribution and supply rates, NorthWestern assumes a loss factor for each customer class. For example, it assumes that 8.5% of the supply delivered to its system is lost before reaching residential customers. The graphs on pages 9 and 10, which show electric supply for all classes of customers, reflect a system average loss factor of about 7.5%.

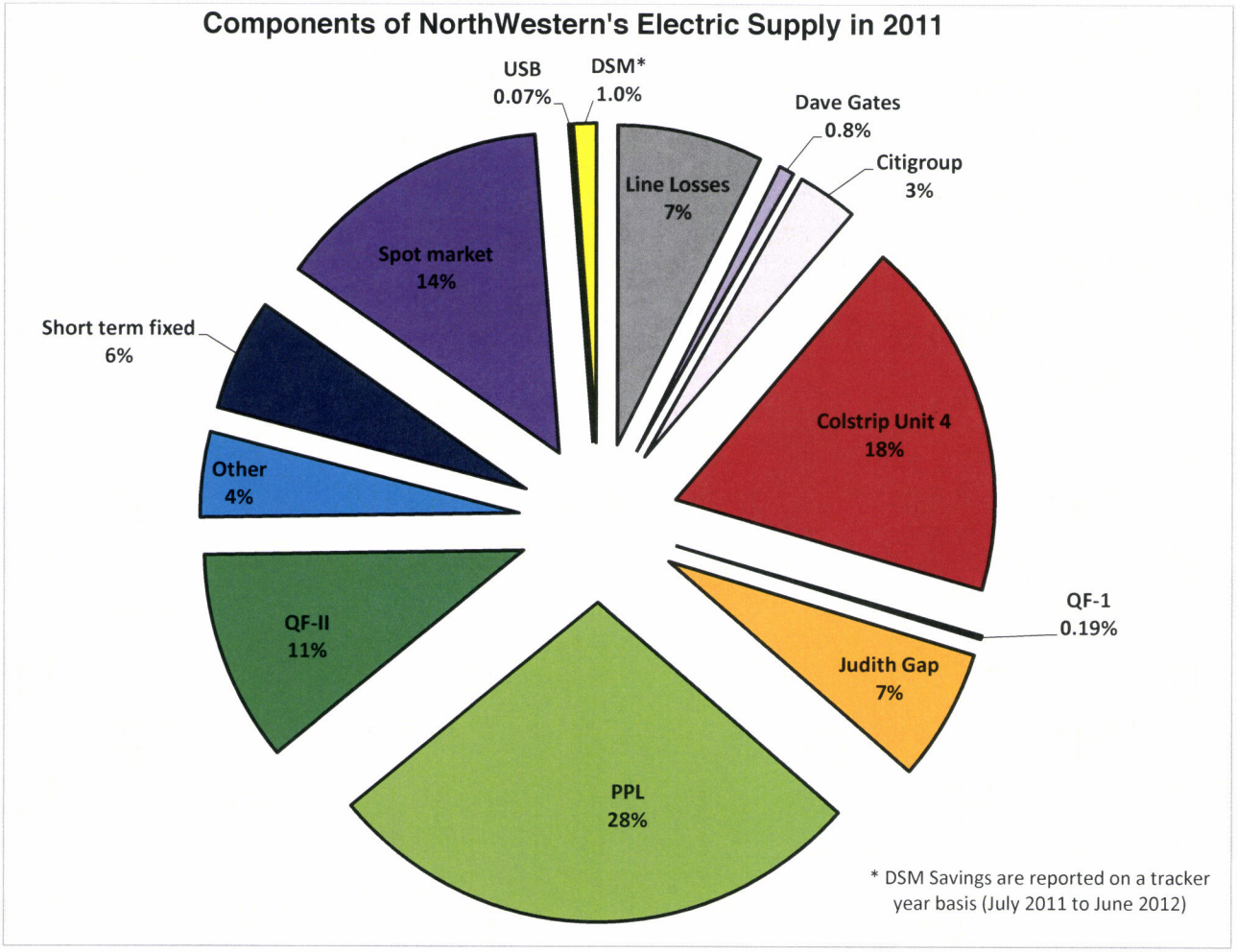
Although the Montana Legislature sets the total budget of the Montana Consumer Counsel and PSC, the money is collected through rates (**MCC & PSC Funding**). NorthWestern also recovers carrying costs, certain transmission costs, and third-party administrative costs (**Administrative, etc.**) through the electric supply rate. Finally, it applies a monthly rate adjustment (**Cap**) "so that the percentage rate increase for each customer class is no greater than the residential customer rate class increase."[10]

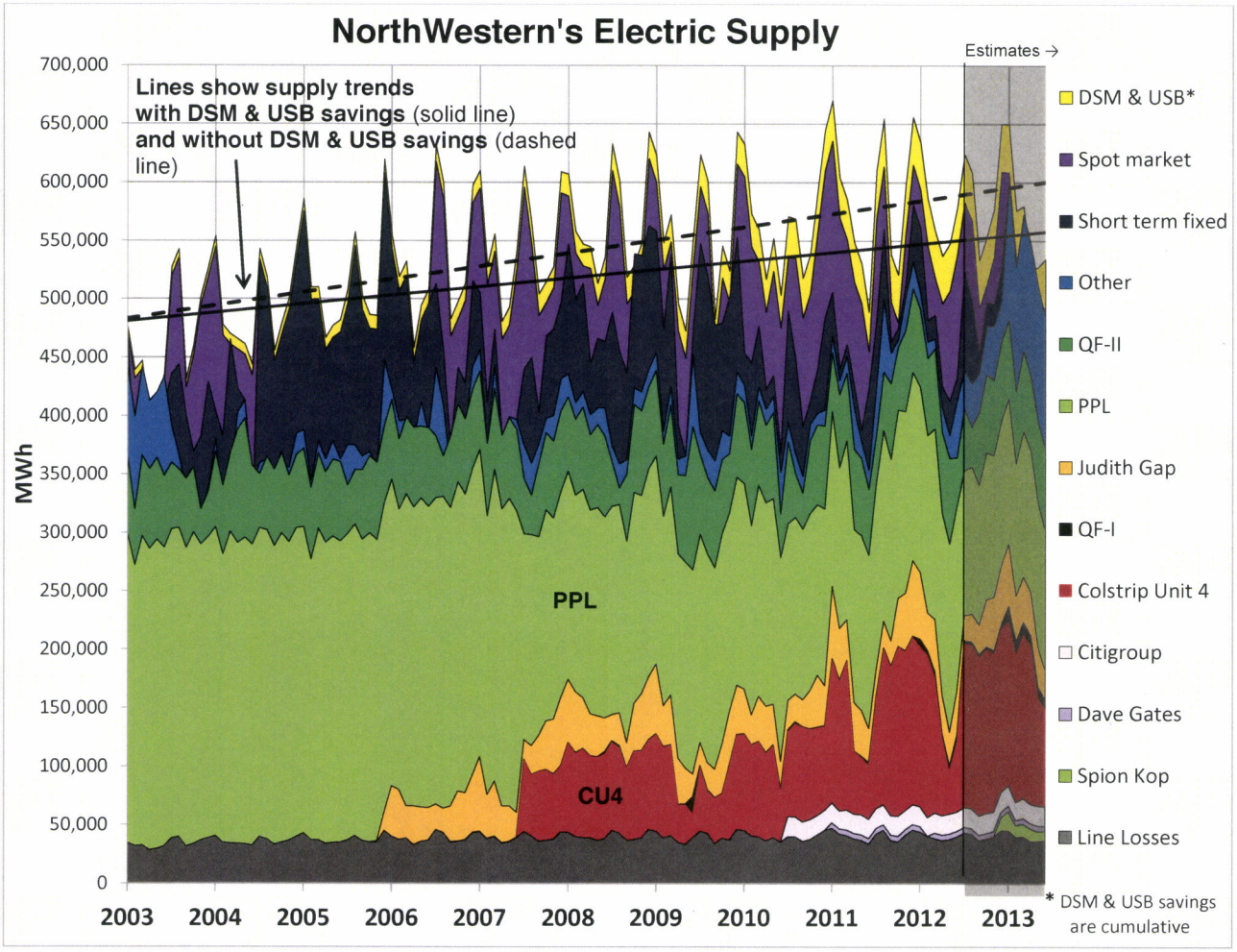
The Bonneville Power Administration's residential exchange credit (**BPA Credit**) shares the benefits of low-cost federal hydropower with NorthWestern customers. As the marketing agency for electricity generated at federally-owned dams on the Columbia River, BPA provided inexpensive supply to the region until the 1970s, when increasing demand forced it to not renew contracts with certain utilities. "In order to avoid an energy crisis and to redress BPA's diminishing ability to satisfy the region's power demands," Congress created the residential exchange program to spread the benefits regionally.[11]

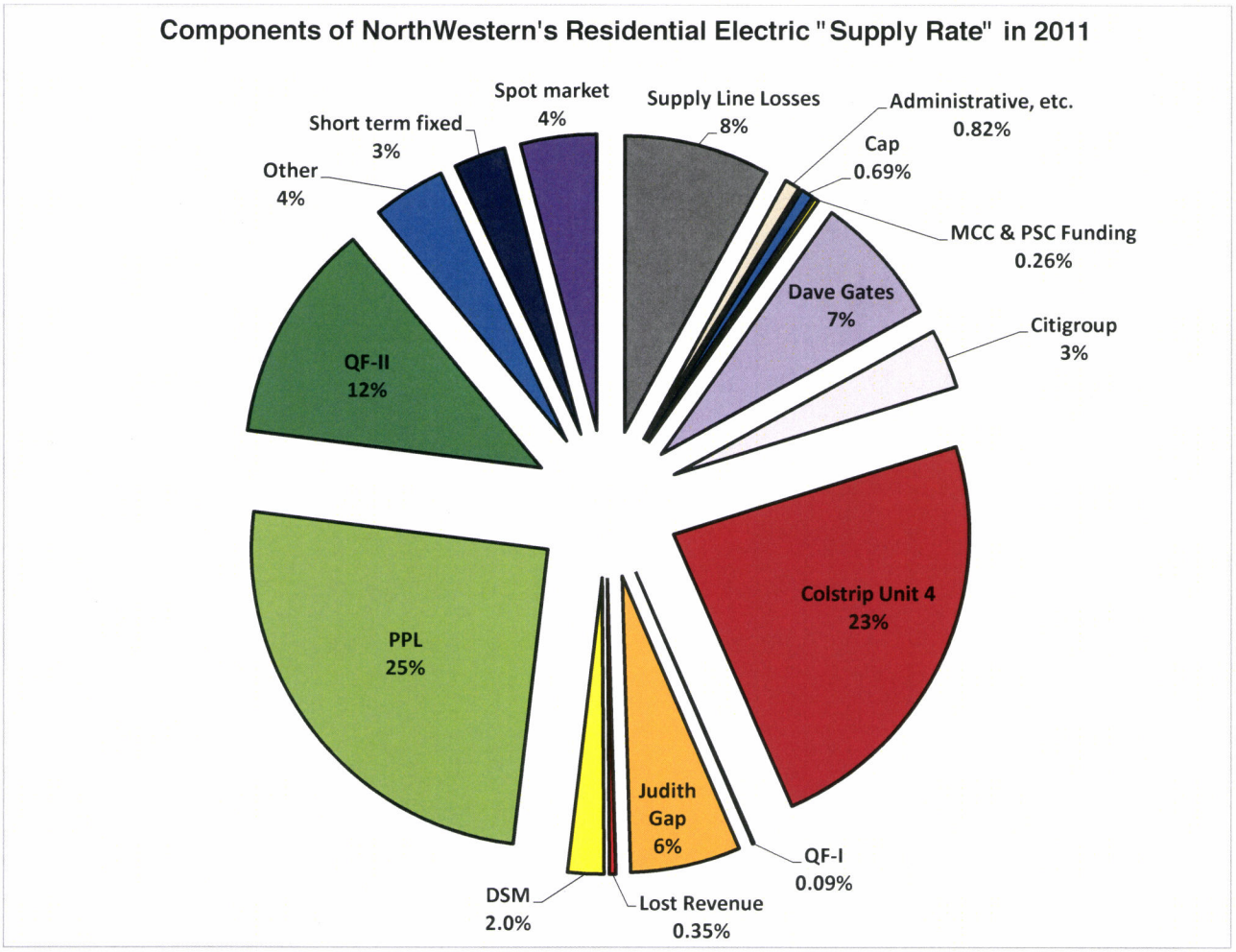
The deferred supply rate (**Deferred Rate**) corrects for over- or under-collections of supply costs on which NorthWestern does not earn a profit, and may therefore be positive or negative.[12]

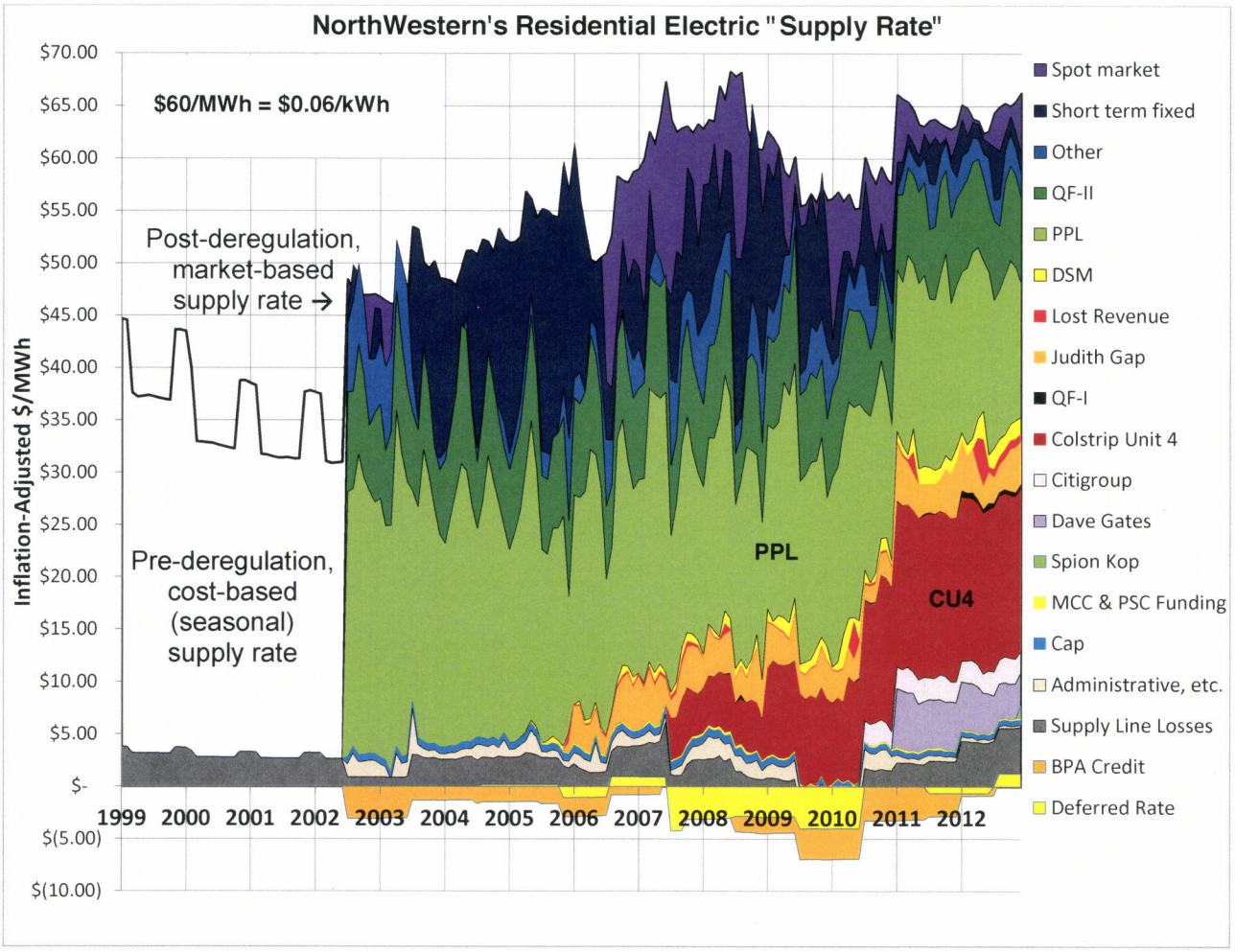
Finally, the only component of the residential rate that does not appear on pages 5 and 6 is the discount for certain retired NorthWestern employees, whose personal consumption NorthWestern reduces by forty percent before calculating supply rates. This employee discount partially shifts costs to the other nine classes of customers, but for residential customers it accounts for only about $0.02 of the roughly $60 per-megawatt-hour supply rate.

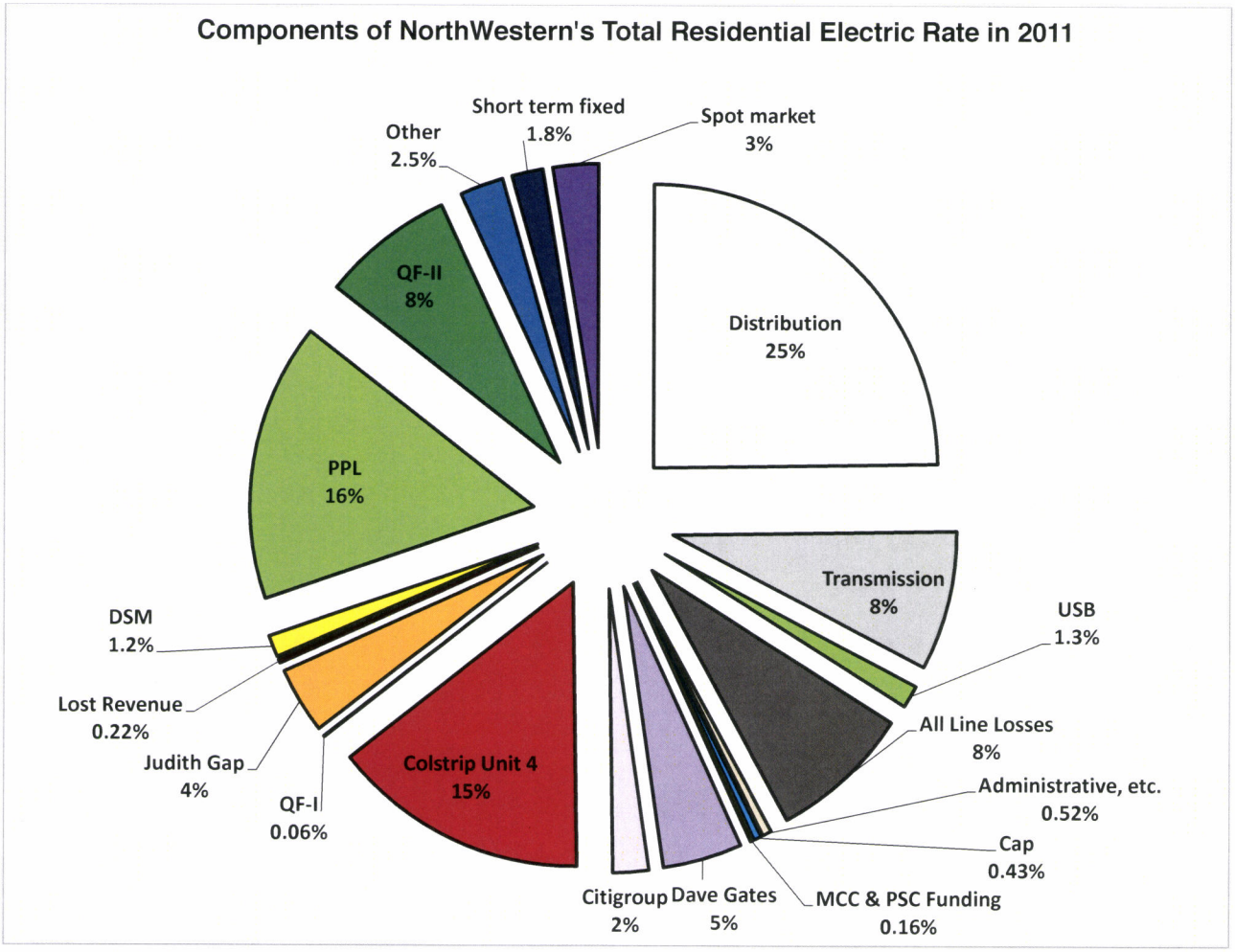
[8] Mont. Code Ann. § 69-8-402 (2011).
[9] The transmission, distribution, Colstrip Unit 4 fixed and Dave Gates fixed rates.
[10] PSC Docket D2011.5.38 Application, CAH-11 (June 2, 2011).
[11] *See Portland Gen. Elec. Co. v. BPA*, 501 F.3d 1009, 1014 (9th Cir. 2007); as shown on graphs, the BPA Credit is added to supply rate.
[12] As shown on graphs, the Deferred Rate is added to supply rate.

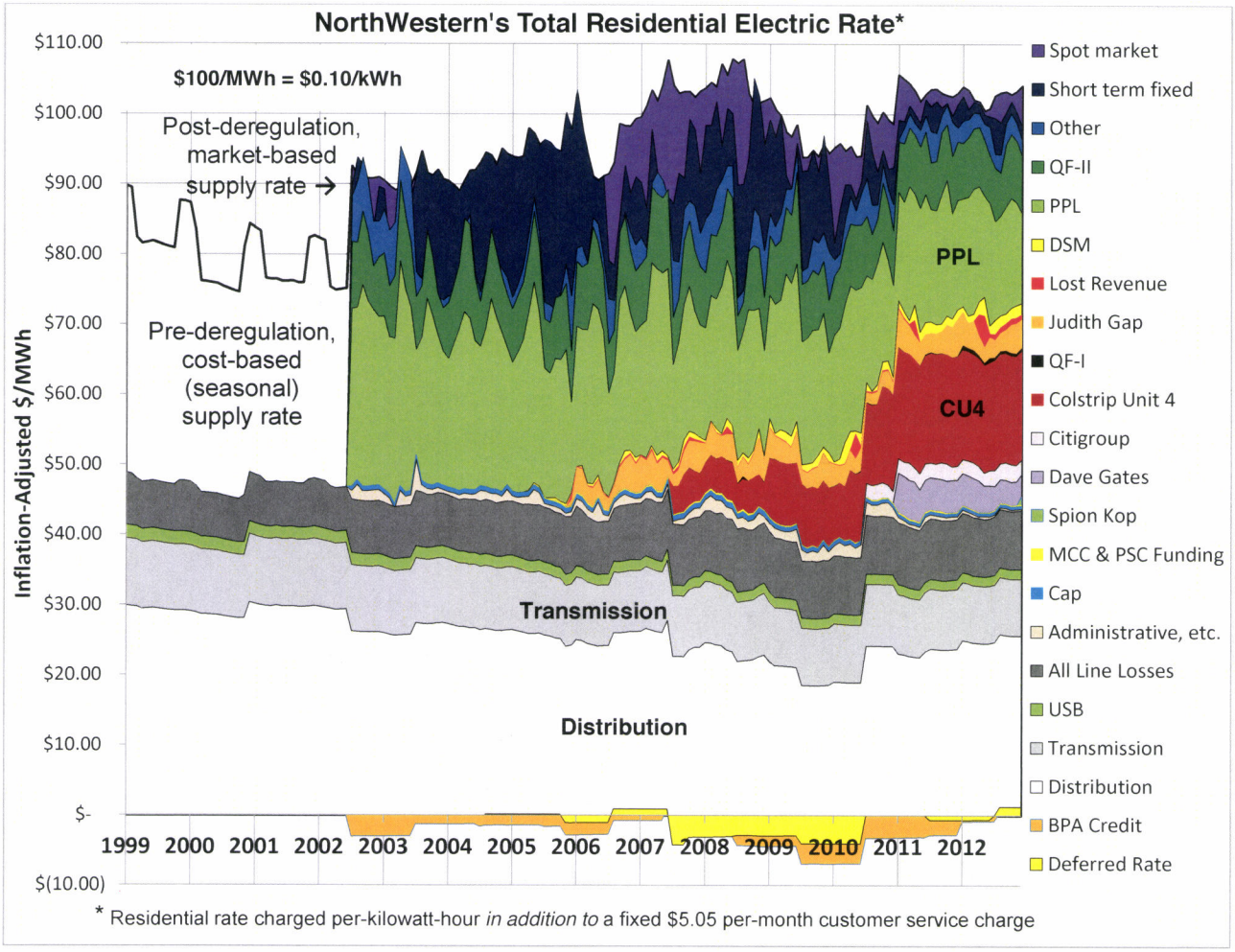

Components of NorthWestern's Electric Supply in 2011
USB
0.07%
DSM*
1.0%
Dave Gates
0.8%
Citigroup
3%
Line Losses
7%
Spot market
14%
Short term fixed
6%
Colstrip Unit 4
18%
Other
4%
QF-1
0.19%
QF-II
11%
Judith Gap
7%
PPL
28%
* DSM Savings are reported on a tracker year basis (July 2011 to June 2012)


NorthWestern's Electric Supply
Estimates →
Lines show supply trends with DSM & USB savings (solid line) and without DSM & USB savings (dashed line)
MWh
700,000
650,000
600,000
550,000
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
PPL
CU4
DSM & USB*
Spot market
Short term fixed
Other
QF-II
PPL
Judith Gap
QF-I
Colstrip Unit 4
Citigroup
Dave Gates
Spion Kop
Line Losses
* DSM & USB savings are cumulative

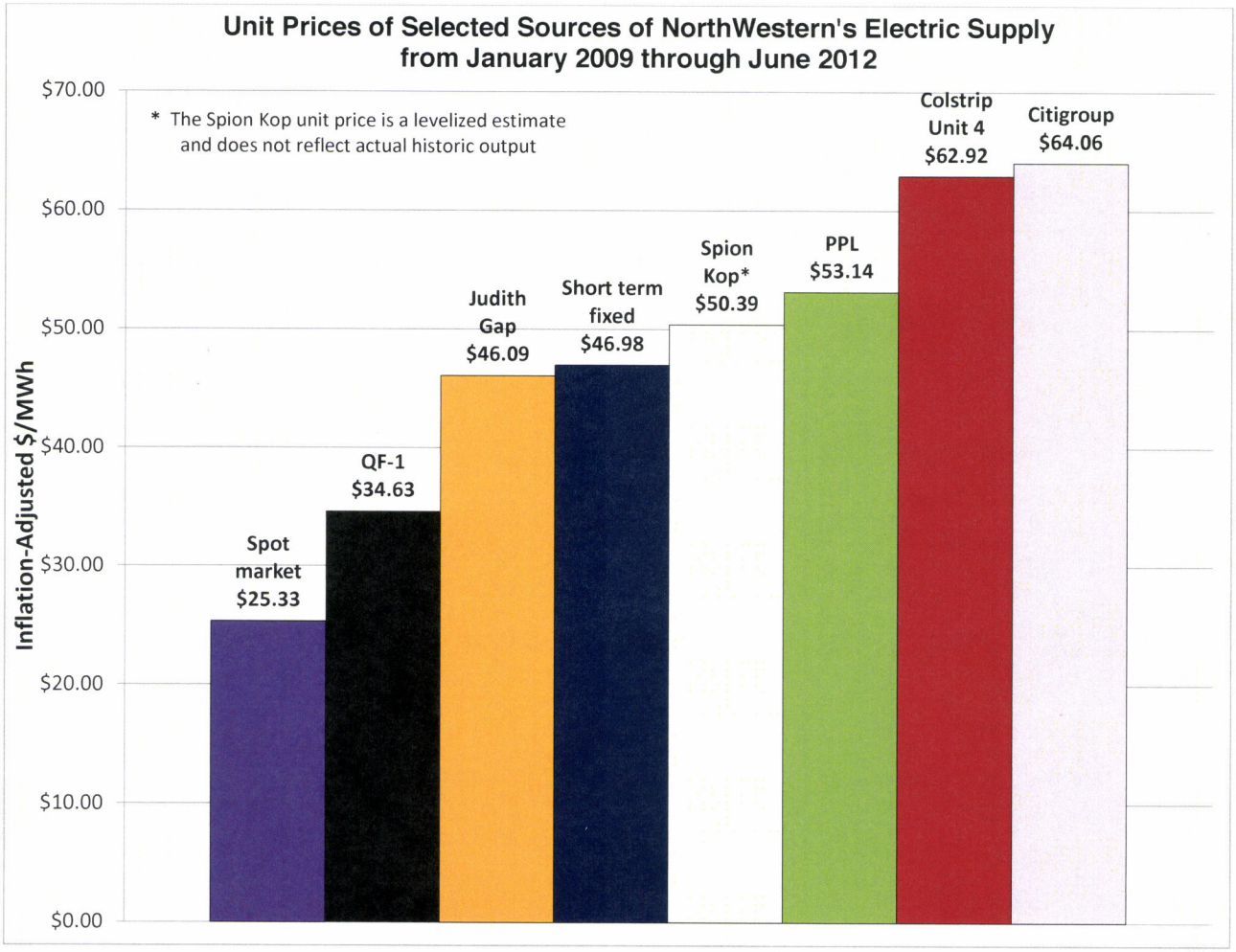

Components of NorthWestern's Residential Electric "Supply Rate" in 2011
Spot market 4%
Supply Line Losses 8%
Administrative, etc. 0.82%
Short term fixed 3%
Cap 0.69%
Other 4%
MCC & PSC Funding 0.26%
Dave Gates 7%
Citigroup 3%
QF-II 12%
Colstrip Unit 4 23%
PPL 25%
Judith Gap 6%
QF-I 0.09%
DSM 2.0%
Lost Revenue 0.35%

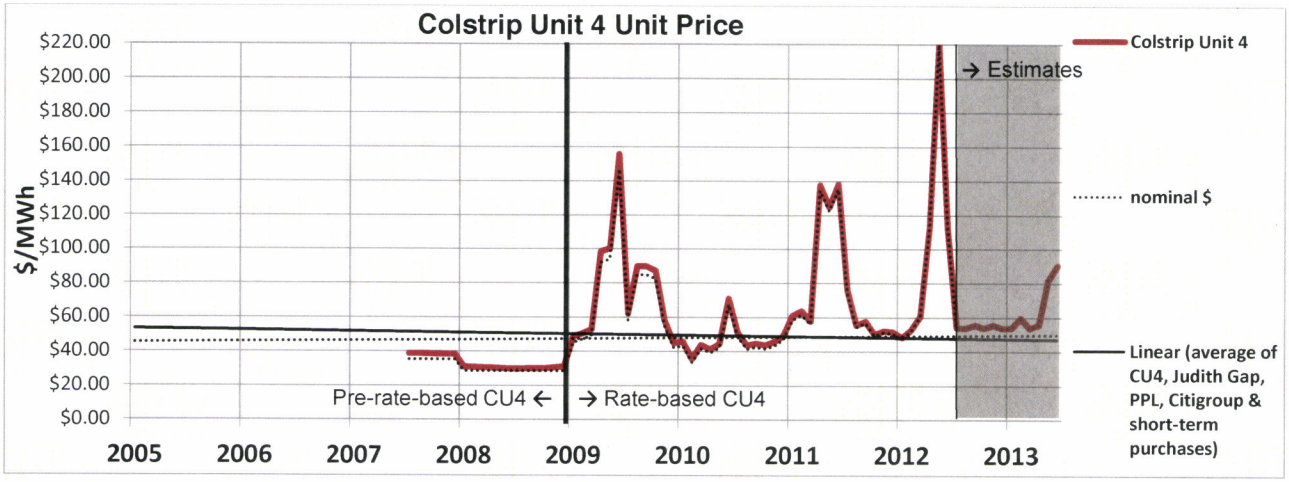

NorthWestern's Residential Electric "Supply Rate"
Inflation-Adjusted $/MWh
$70.00
$65.00
$60.00
$55.00
$50.00
$45.00
$40.00
$35.00
$30.00
$25.00
$20.00
$15.00
$10.00
$5.00
$-
$(5.00)
$(10.00)
$60/MWh = $0.06/kWh
Post-deregulation, market-based supply rate →
Pre-deregulation, cost-based (seasonal) supply rate
PPL
CU4
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
Spot market
Short term fixed
Other
QF-II
PPL
DSM
Lost Revenue
Judith Gap
QF-I
Colstrip Unit 4
Citigroup
Dave Gates
Spion Kop
MCC & PSC Funding
Cap
Administrative, etc.
Supply Line Losses
BPA Credit
Deferred Rate

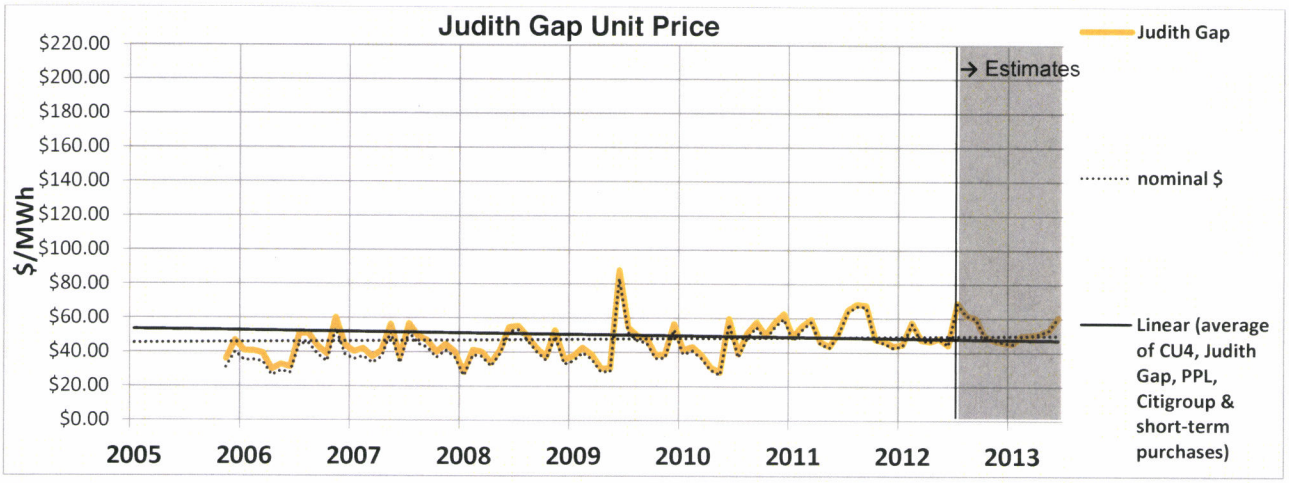

Components of NorthWestern's Total Residential Electric Rate in 2011
Short term fixed 1.8%
Other 2.5%
Spot market 3%
QF-II 8%
Distribution 25%
PPL 16%
Transmission 8%
USB 1.3%
DSM 1.2%
Lost Revenue 0.22%
All Line Losses 8%
Judith Gap 4%
Colstrip Unit 4 15%
Administrative, etc. 0.52%
QF-I 0.06%
Cap 0.43%
Citigroup 2%
Dave Gates 5%
MCC & PSC Funding 0.16%

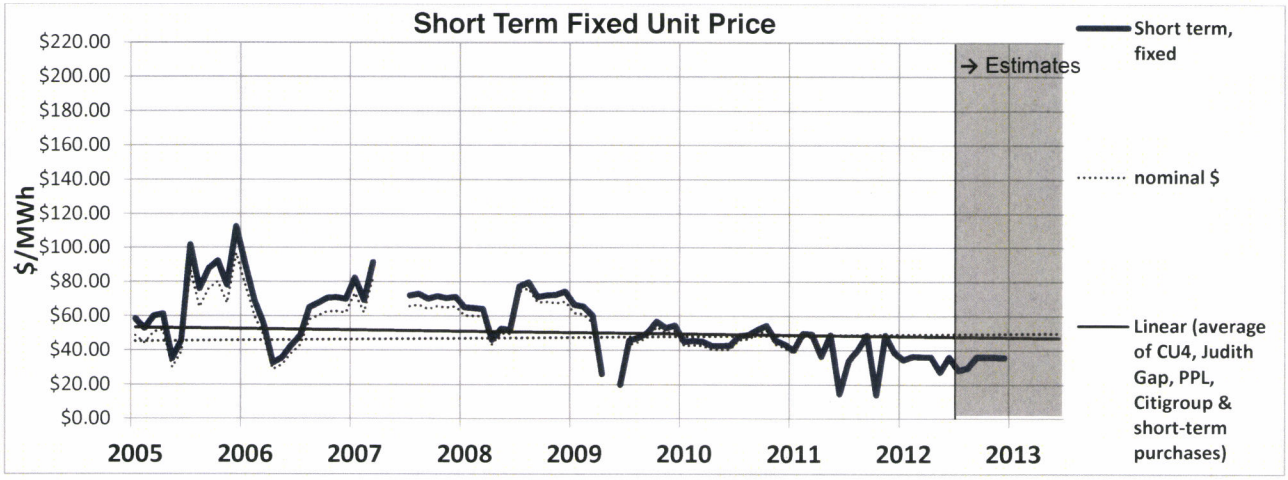


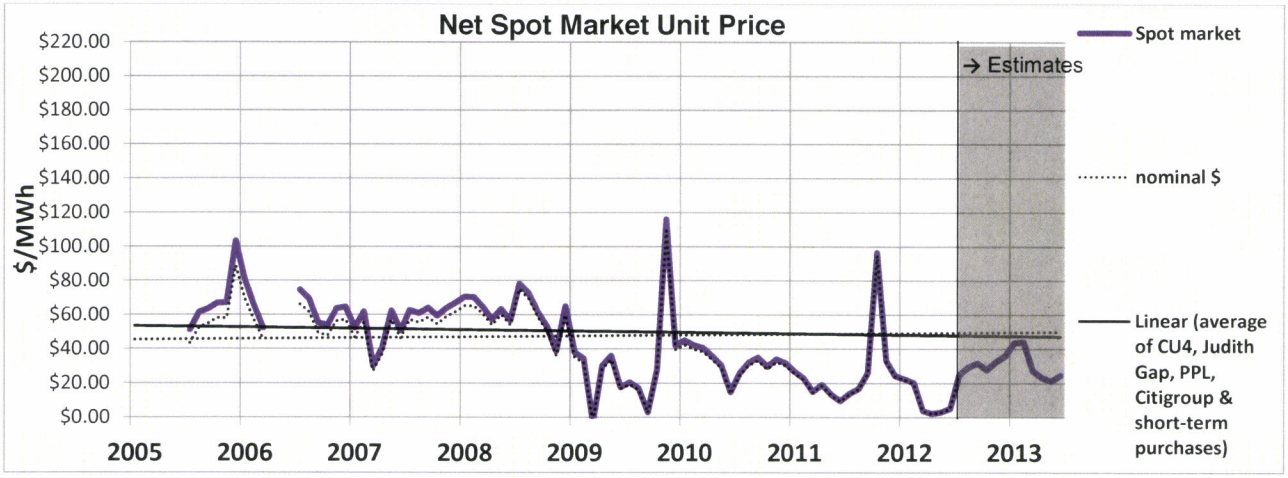
* Residential rate charged per-kilowatt-hour *in addition to* a fixed $5.05 per-month customer service charge


Unit Prices of Selected Sources of NorthWestern's Electric Supply
from January 2009 through June 2012
* The Spion Kop unit price is a levelized estimate and does not reflect actual historic output
Inflation-Adjusted $/MWh
$70.00
$60.00
$50.00
$40.00
$30.00
$20.00
$10.00
$0.00
Spot market $25.33
QF-1 $34.63
Judith Gap $46.09
Short term fixed $46.98
Spion Kop* $50.39
PPL $53.14
Colstrip Unit 4 $62.92
Citigroup $64.06


Colstrip Unit 4 Unit Price
$/MWh
$220.00
$200.00
$180.00
$160.00
$140.00
$120.00
$100.00
$80.00
$60.00
$40.00
$20.00
$0.00
2005
2006
2007
2008
2009
2010
2011
2012
2013
→ Estimates
Pre-rate-based CU4 ←
→ Rate-based CU4
Colstrip Unit 4
nominal $
Linear (average of CU4, Judith Gap, PPL, Citigroup & short-term purchases)


Judith Gap Unit Price
$/MWh
$220.00
$200.00
$180.00
$160.00
$140.00
$120.00
$100.00
$80.00
$60.00
$40.00
$20.00
$0.00
2005
2006
2007
2008
2009
2010
2011
2012
2013
→ Estimates
Judith Gap
nominal $
Linear (average of CU4, Judith Gap, PPL, Citigroup & short-term purchases)


Short Term Fixed Unit Price
$/MWh
$220.00
$200.00
$180.00
$160.00
$140.00
$120.00
$100.00
$80.00
$60.00
$40.00
$20.00
$0.00
2005
2006
2007
2008
2009
2010
2011
2012
2013
→ Estimates
Short term, fixed
nominal $
Linear (average of CU4, Judith Gap, PPL, Citigroup & short-term purchases)


Net Spot Market Unit Price
$/MWh
$220.00
$200.00
$180.00
$160.00
$140.00
$120.00
$100.00
$80.00
$60.00
$40.00
$20.00
$0.00
2005
2006
2007
2008
2009
2010
2011
2012
2013
→ Estimates
Spot market
nominal $
Linear (average of CU4, Judith Gap, PPL, Citigroup & short-term purchases)